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UNITED STATES DEPARTMENT OF AGRICULTURE | FOREST SERVICE | RO

REPLY TO: 3420 DATE: NOV 03 1986

SUBJECT: Evaluation of Hat Creek Administrative Site For Pest Problems (Report No. 86-19)

TO: Forest Supervisor, Lassen National Forest

The Hat Creek Ranger District requested Forest Pest Management (FPM) to examine the site for their new District office at Four Corners. The objective was to determine whether any existing pest situations could be avoided or eliminated during planning and construction phases. Darwin Richards met on site with Dave Schultz, entomologist, and John Pronos, plant pathologist, on July 30, 1986. After an orientation, Dave and John surveyed the entire area and made site specific comments directly onto a map provided by Darwin. This map was left with the District on the following day.

Even though much of the construction may have been finished by now, we would like to use this memo to point out, to other Forests and Districts, examples of pest conditions that can be mitigated before facilities (District Offices, campgrounds, visitor centers, etc.) are completed. The time for pest input is during the planning stages and before construction. The District had an excellent opportunity to minimize the future impact of several pests present at the site. Because they are doing the tree removal and clearing, they also have good control over the quality of work and amount of injury done to the residual vegetation.

Below are comments concerning the pest situations we encountered:

1. Hazardous trees. Several mature oaks and a large ponderosa pine were found that could present considerable hazard, depending on the final placement of roads and structures. Regardless of the degree of hazard, it is far easier to remove hazardous trees or tree parts during construction rather than after. Another alternative is to redesign the location of roads and buildings so that defective trees do not have a target to strike.

2. Dwarf mistletoe. A small area of dwarf mistletoe infestation of ponderosa pine was delineated on the site map. At present most overstory and understory trees are moderately to severely infected. Under these conditions it is not feasible to perpetuate an uneven aged stand. The overstory will continue to decline and infect the understory. Infected understory trees are not expected to live more than a few decades. Although this parasite progresses slowly, it is persistent and will not simply go away. The only way to eliminate this pest would be to remove the heavily infested trees and prune out mistletoe plants from the remaining pines. Another alternative is to

prune as much mistletoe from overstory trees as possible and accept that the understory will continue to decline. Planting pines in the area is not acceptable unless the dwarf mistletoe is first removed. Actually, a small infested area such as this would be an ideal place to clear and pave for a parking lot or use as a site for a large building.

3. Dense tree aggregations. Scattered throughout the site are small groups (typically 5-15 stems) of saplings and pole-size oaks and pines. Many of these are at a point where they should be thinned to enhance vigor and prolong the life of residual trees. It will be particularly important to keep the total basal area fairly low around desirable pines to avoid stress which would make them susceptible to bark beetles. Basal area could be reduced in some areas by removing a few individual stems from clumps of oak sprouts. To promote long-term health and aesthetic enhancement of the site, it would be best to treat the entire area. Although thinning would initially cause a small reduction in screening from the highways, the development of fuller crowns will result in increased screening within a few years. The best time to thin these groups is when other tree falling and clearing is being done. Once construction is finished, we doubt that anyone will return to the area for another treatment.

4. Preventive activities. If live pines are cut during construction, precautions should be taken to prevent pine engravers, Ips spp., from breeding in the slash. This would lower the short-term risk of top-killing or mortality of the residual trees. Slash created from mid-July through December usually poses a low risk as breeding habitat for pine engravers if it is lopped and scattered. Additional treatments would probably be warranted in a high value site. Chipping the slash for mulch or removing the slash from the site would probably be compatible with management objectives for an administrative or recreational site. Burning or treating the slash with insecticide before the pine engravers emerge would also be effective in areas where these practices would not detract from the intended site use.

Stumps of conifers cut in high value sites should be immediately treated with granular borax (sodium tetraborate decahydrate) to prevent infection by spores of the root disease fungus, Fomes annosus. This treatment has no effect on the expansion of existing disease centers, but will prevent the establishment of new ones. (Annosus root disease was not found on this site, but is common in most of the eastside pine type.) Borax is a registered pesticide (EPA Reg. No. 1624-94) and the normal procedures for pesticide-use approval by the Forest Supervisor should be followed.

Any questions about the pests or situations described in this report should be directed to the Forest Pest Management group at (415) 556-6520.

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